

SPACE STATION SCIENCE LAB MODULE

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The Science Lab Module (SLM), a key component of the proposed Space Station (SS) orbiting complex, is undergoing intensive study during the project design phase which is currently underway. The SLM is one of two laboratory modules (the other is for materials processing) which, together with two habitation modules, comprise the core elements of the SS reference configuration.

Current project emphasis is to configure the SLM as a national science laboratory module facility which would have four major functions: maximize life sciences research potential, support operations of attached payloads, provide shirtsleeve environment for other payload instrument servicing, and support "other" science requirements. Included under "other" science are, for example, exobiology, planetary sciences, Earth observations, etc.

Conceptually, the design studies are focusing on outfitting a common module basic design to accommodate the four specific functions identified above. The common module is expected to be a 35 foot long, 14 foot diameter spacelab-like structure carried to orbit in the cargo bay of the Space Shuttle. Basic subsystem support provided by the common module design includes distributed data, power, thermal, communications, environmental life support, and storage. Science- or discipline-specific equipment will be designed, developed, and provided by the science users (i.e., NASA's Office of Space Science and Applications and its user community).

Although design work for outfitting the SLM for life sciences research is underway, science requirements for the other sciences and functions indicated above are not as well developed. A SLM Users Working Group has been convened to advise the project on the extent to which science requirements across all disciplines and functions are being accommodated by the SLM outfitting project design activity.